

CONFIDENTIAL

5 An MTU shuttle (not shown) moves the MTUs 160 incrementally (to the right in
FIGURE 3) with the delivery of each subsequent MTU 160 into the deactivation station 750
from the luminometer 950. Before an MTU can be delivered to the deactivation queue 750 by
the luminometer 950, the MTU shuttle must be retracted to a home position, as sensed by a
strategically positioned optical slot switch. After receiving an MTU 160 from the luminometer,
the shuttle moves the MTU 160 to a deactivation station where the dedicated delivery lines
connected to dedicated injectors dispense the deactivating solution into each receptacle vessel
162 of the MTU 160. Previous MTUs in the deactivation queue, if any, will be pushed forward
by the distance moved by the MTU shuttle. Sensors at the deactivation station verify the
10 presence of both the MTU and the MTU shuttle, thus preventing the occurrence of a deactivating
fluid injection into a non-existent MTU or double injection into the same MTU.

15 An aspiration station (not shown) includes five, mechanically coupled aspirator tubes
mounted for vertical movement on an aspirator tube rack and coupled to an actuator for raising
and lowering the aspirator tubes. The aspiration station is at the last position along the
deactivation queue before the MTUs are dropped through a hole in the datum plate 82 and into
the waste bin 1108. Each time an MTU moves into the deactivation station, the aspirator tubes
cycle up and down one time, whether an MTU is present in the aspiration station or not. If an
MTU is present, the aspirator tubes aspirate the fluid contents from the MTU. When the next
MTU is moved into the deactivation station by the MTU shuttle, the last-aspirated MTU is
20 pushed off the end of the deactivation queue and falls into the waste bin 1108.

The steps and sequence of the above-described assay procedure performed on the
analyzer 50 in the preferred mode of operation are graphically and succinctly described in the
document Gen-Probe TIGRIS Storyboard v.1.0, June 23, 1997, a copy of which was filed with
the provisional disclosure upon which priority is claimed for the present specification and the
25 contents of which are hereby incorporated by reference.

Ideally, the analyzer 50 can run about 500 preferred assays in an 8 hour period, or about
1,000 preferred assays in a 12 hour period. Once the analyzer 50 is set-up and initialized, it
ordinarily requires little or no operator assistance or intervention. Each sample is handled
identically for a given assay, although the analyzer is capable of simultaneously performing
30 multiple assay types in which different MTUs may or may not be handled identically.
Consequently, manual pipetting, incubation timing, temperature control, and other limitations
associated with manually performing multiple assays are avoided, thereby increasing reliability,

efficiency, and throughput. And because an operator's exposure to samples is generally limited to the loading of samples, risks of possible infection are greatly reduced.

While the invention has been described in connection with what are presently considered to be the most practical and preferred embodiments, it is to be understood that the invention is not to be limited to the disclosed embodiments, but, on the contrary, is intended to cover various modifications and equivalent arrangements included within the spirit and scope of the appended claims.

Furthermore, those of the appended claims which do not include language in the "means for performing a specified function" format permitted under 35 U.S.C. §112(¶6), are not intended to be interpreted under 35 U.S.C. §112(¶6) as being limited to the structure, material, or acts described in the present specification and their equivalents.